

CLAIMS

1. A process for regulating the porosity and printing properties of uncoated paper, the process comprising using a sufficient quantity of colloidal PCC having a BET surface
5 area of 10-100 m²/g as a filler to achieve a desired porosity of the paper.
2. A process according to claim 1, wherein the paper is wood-containing paper.
3. A process according to claim 2, wherein the paper is SC paper, in particular SC-A
10 paper, and wherein colloidal PCC is used in a quantity sufficient to achieve a porosity of at most 0.30 µm/Pas, e.g. at most 0.28 µm/Pas, e.g. at most 0.26 µm/Pas, e.g. at most 0.24 µm/Pas, e.g. at most 0.22 µm/Pas.
4. A process according to claim 2, wherein the paper is SC-B paper, and wherein
15 colloidal PCC is used in a quantity sufficient to achieve a porosity of at most 0.60 µm/Pas, e.g. at most 0.50 µm/Pas, e.g. at most 0.40 µm/Pas, e.g. at most 0.35 µm/Pas.
5. A process according to claim 2, wherein the paper is newsprint, and wherein
20 colloidal PCC is used in an amount sufficient to achieve a porosity of at most 20 µm/Pas, e.g. at most 18 µm/Pas, e.g. at most 16 µm/Pas.
6. A process according to any of the preceding claims, wherein the colloidal PCC has a BET surface area of 15-50 m²/g.
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7. A process according to claim 6, wherein the colloidal PCC has a BET surface area of 20-30 m²/g.
8. A process according to any of the preceding claims, wherein colloidal PCC is
30 incorporated into the paper in an amount of at least about 1% by weight based on the total weight of the paper.
9. A process according to claim 8, wherein colloidal PCC is incorporated into the paper in an amount of at least about 2% by weight based on the total weight of the paper.

10. Paper containing colloidal PCC having a BET surface area of 10-100 m²/g as a filler.
- 5 11. Paper according to claim 10, comprising at least one further filler selected from non-colloidal PCC, kaolin, calcined kaolin, gypsum, chalk, ground marble, silicate-containing minerals, sulphate-containing minerals, oxide-containing minerals, carbonate-containing minerals, hydroxide-containing minerals, calcium sulfoaluminates, plastic particles and organic pigments.
- 10 12. Paper according to claim 10 or 11, wherein the colloidal PCC has a BET surface area of 15-50 m²/g, e.g. 20-30 m²/g.
13. Paper according to any of claims 10-12, said paper being uncoated.
- 15 14. Paper according to any of claims 10-13, wherein the colloid PCC is present in an amount of at least about 1% by weight, e.g. at least about 2% by weight, based on the total weight of the paper.
- 20 15. Uncoated wood-containing paper containing colloidal PCC.
16. SC paper containing colloidal PCC and having a porosity of at most 0.30 µm/Pas, e.g. at most 0.28 µm/Pas, e.g. at most 0.26 µm/Pas, e.g. at most 0.24 µm/Pas, e.g. at most 0.22 µm/Pas.
- 25 17. SC paper according to claim 16, wherein the paper is SC-A paper.
18. SC-B paper containing colloidal PCC and having a porosity of at most 0.60 µm/Pas, e.g. at most 0.50 µm/Pas, e.g. at most 0.40 µm/Pas, e.g. at most 0.35 µm/Pas.
- 30 19. Newsprint containing colloidal PCC and having a porosity of at most 20 µm/Pas, e.g. at most 18 µm/Pas, e.g. at most 16 µm/Pas.

20. Paper according to any of claims 15-19, comprising at least one further filler selected from non-colloidal PCC, kaolin, calcined kaolin, gypsum, chalk, ground marble, silicate-containing minerals, sulphate containing minerals, oxide-containing minerals, carbonate-containing minerals, hydroxide-containing minerals, calcium sulfoaluminates, plastic particles and organic pigments.

21. Paper according to any of claims 15-20, wherein the colloidal PCC has a BET surface area of 10-100 m²/g, e.g. 15-50 m²/g, e.g. 20-30 m²/g.

22. A pigment mixture suitable for paper manufacture and comprising colloidal PCC having a BET surface area of 10-100 m²/g in combination with at least one filler selected from the following pigments: kaolin, calcined kaolin, gypsum, chalk, ground marble, silicate-containing minerals, sulphate-containing minerals, oxide-containing minerals, carbonate-containing minerals, hydroxide-containing minerals, calcium sulfoaluminates, plastic particles and organic pigments.

23. A pigment mixture suitable for paper manufacture and comprising a combination of colloidal PCC having a BET surface area of 10-100 m²/g and non-colloidal PCC.

24. A pigment mixture according to claim 22 or 23, wherein the colloidal PCC has a BET surface area of 15-50 m²/g, e.g. 20-30 m²/g.

25. A pigment mixture according to any of claims 22-24, wherein the colloidal PCC comprises aggregates/agglomerates having an equivalent spherical particle size in the range 0.1-5.0 µm, e.g. 0.2-4 µm, typically 0.5-3.0 µm, wherein the aggregates/agglomerates consist of single crystals having an equivalent spherical particle size of about 0.01-0.50 µm.

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